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EVALUATION OF
PROPOSED CONSOLIDATION
OF CHILL AND FREEZE MISSION
AT DEFENSE SUBSISTENCE
OFFICES (DSOs) LANDOVER
AND CHEATHAM

JUNE 1993

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OPERATIONS RESEARCH AND
ECONOMIC ANALYSIS OFFICE
OFFICE OF PLANNING &
RESOURCE MANAGEMENT

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EVALUATION OF PROPOSED CONSOLIDATION OF CHILL AND FREEZE
MISSION AT DEFENSE SUBSISTENCE OFFICES (DSOs)
LANDOVER AND CHEATHAM

DTIC QUALITY INSPECTED 3

DEBRA A. McCORKLE

OPERATIONS RESEARCH AND ECONOMIC ANALYSIS OFFICE
OFFICE OF PLANNING AND RESOURCE MANAGEMENT
DEFENSE PERSONNEL SUPPORT CENTER

JUNE 1993

EXECUTIVE SUMMARY

In an effort to reduce costs and live within ever tightening budget constraints, the Field Activities Branch of the Supply Operations Division, Directorate of Subsistence is considering moving the Chill and Freeze mission from the Defense Subsistence Office (DSO) Landover, Maryland to DSO Cheatham, Williamsburg, Virginia. At this time, Subsistence has no plan to make any changes concerning the Fresh Fruit and Vegetable (FF&V) mission that Landover currently performs.

In order to adequately evaluate the proposed consolidation, the Field Activities Branch requested the Operations Research and Economic Analysis Office conduct an economic analysis to compare the costs of the current operations to service the Landover and Cheatham customers vice consolidating the two facilities and servicing both sets of customers from the DSO Cheatham facility. The major cost elements analyzed were storage, handling and transportation costs. Storage and handling costs were available for the two DSOs from the Field Activities Branch of Subsistence, however, transportation data was only available for the current customers of each DSO. No reliable cost data was available for DSO Cheatham to service new customers. A regression model for transportation costs was developed using each DSO's actual transportation cost per 100 pounds (cwt) per mile. The correlation analysis showed a relationship between cost and distance for each customer. Using the model, prospective rates were developed for each new customer and their transportation costs were calculated.

A summary of major cost elements comparing servicing Landover and Cheatham customers from their present DSOs (status quo operations) and consolidating the two facilities and servicing both sets of customers from the Cheatham DSO showed operating costs would be approximately \$306,000 more annually if consolidated at Cheatham.

Although not part of the original request from the Directorate of Subsistence, but for the sake of completeness, the OR&EA Office considered the additional alternative of consolidating the DSO Cheatham Chill and Freeze mission at DSO Landover. Once again, the major cost elements analyzed were storage, handling and transportation costs. As mentioned previously, storage and handling costs were available from the Field Activities Branch of Subsistence and a regression model for transportation costs

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was developed using each DSO's actual transportation cost
per 100 pounds (cwt) per mile.
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A summary of major cost elements comparing servicing Cheatham and Landover customers from their current DSOs (status quo operations) and consolidating the two facilities and servicing both sets of customers from the Landover DSO showed operating costs out of Landover would be approximately \$1,224,000 more annually.

Therefore, having addressed the storage, handling and transportation costs of the various consolidation options, the economic analysis concluded that the least costly alternative would be to remain with the status quo Chill and Freeze operations at both DSO Landover and DSO Cheatham. Due to the close proximity of the current two sets of customers to their respective DSOs and the long distance between the two DSOs (approx. 150 miles) the transportation costs to service the new customers make consolidation an expensive consideration. However, decision makers may want to take a look at broadening the geographic area of consideration to include additional DSOs for consolidation (i.e. perhaps DSO Landover could be more economically consolidated with DSO Philadelphia and/or DSO Cheatham with DSO Columbia, S.C.)

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I. INTRODUCTION AND BACKGROUND.

The Field Activities Branch of the Supply Operations Division in the Directorate of Subsistence is responsible for the daily operation of seventeen Defense Subsistence Offices (DSOs) aligned with the Defense Subsistence Region (DSR)-Atlantic and provides assistance and coordination for five West Coast DSOs aligned with DSR-Pacific. The mission of each DSO is to provide effective and economical cold storage warehousing support and buying services for fresh fruits and vegetables to authorized customers within a designated geographical area.

Due to increased budgetary constraints and the continuing need to provide effective and economical support and services to over 2100 Subsistence customers, the Field Activities Branch is currently reviewing the placement of the 21 DSOs and the customers they serve. One recommendation being considered is to move the Chill and Freeze mission from DSO Landover, Maryland to DSO Cheatham, Williamsburg, Virginia. At this time, Subsistence has no plan to make any changes concerning the Fresh Fruit and Vegetable (FF&V) mission currently performed at Landover.

The purpose of this analysis is to determine whether it is more cost effective to serve the 43 Mid-Atlantic Chill and Freeze customers out of consolidated operations at either DSO Landover or DSO Cheatham or whether it is more economical to remain with the status quo operations at both DSO facilities.

II. SCOPE.

The analysis was limited to the consolidation of the Chill and Freeze Mission only. Under the guidelines established by the Directorate of Subsistence, no consideration was given to the consolidation of the Fresh Fruit and Vegetable mission. In addition, consolidation was limited to only the DSO Landover and DSO Cheatham sites. Thus, the analysis considered the following three alternatives:

- Status Quo (no consolidation)
- Consolidate Landover Chill and Freeze mission and Cheatham Chill and Freeze mission and service both sets of customers out of DSO Cheatham.
- Consolidate Cheatham Chill and Freeze mission and Landover Chill and Freeze mission and service both sets of customers out of DSO Landover.

III. METHODOLOGY.

A. Assumptions.

1. Sufficient capacity exists at DSO Landover and DSO Cheatham to service all 43 Mid-Atlantic Chill and Freeze customers.
2. The current 43 Chill and Freeze customers of the two DSOs will continue to be serviced.
3. No additional government personnel costs will be incurred over and above those currently committed for this mission at the two DSOs. It is also assumed there will be no significant reduction in government personnel costs due to the fact that the majority of government personnel at each DSO are associated with the Fresh Fruit and Vegetable (FF&V) mission which is not being considered for consolidation in this analysis.

B. Approach.

The cost of servicing the combined 43 Chill and Freeze customers of the two DSOs from DSO Cheatham will be compared to the cost of servicing the same customers from DSO Landover. In addition, these costs will be compared to the costs of the status quo operations out of the two DSO facilities.

C. Measurement Data.

Developing a model to make the necessary comparisons for this analysis requires specific data elements such as: current operating costs (i.e. storage and handling costs of the warehouses) and transportation costs. Personnel costs were assumed to be the same regardless of DSO selection.

1. Storage and Handling Costs.

Appendix A displays storage and handling charges for each DSO for the years 1990 through 1992, as provided by Subsistence. No itemized storage costs are listed for DSO Cheatham because this facility is Government owned/ Contractor operated. Storage costs are included in an InterService Support Agreement (ISA) between the Defense Personnel Support Center (DPSC) which leases the warehouse, and the Navy who owns the facility. The details of this agreement are also outlined in Appendix A.

Appendix B displays the annual tonnage that passed through the two warehouses (first time pounds) and the annual tonnage stored (recurring pounds) for years 1990 through 1992. For the Cheatham facility, because it is Government owned there is no tracking of tonnage stored (recurring pounds). Thus, to estimate this number, the following formula was provided by Subsistence:

Cheatham Recurring Pounds = 1.5 * 1st time Pounds

This information is used to develop tonnage estimates for carrier tender and service agreements.

2. Transportation Costs.

The current negotiated carrier rate tender and service agreements for Landover and Cheatham were provided by Subsistence. Estimates for tonnage shipped during the year were compiled from the tender and service agreements for each DSO.

Negotiated tender rates are the actual contracted cost per 100 pounds (cwt) to transport goods from a point of origin (i.e. DSO) to a customer. Tender rates were only available for each DSO's current customers, therefore, a method to derive expected tender rates for new customers had to be developed.

The Office of Transportation and Traffic Management provided estimated tender rates based on published tariff rates for all new points of origin (see Appendix C). Tariff rates are regionalized rates for carriers to deliver to customers in a certain geographical area. The Office of Transportation computed the ratio of tender rates to tariff rates as an estimate of tender rates for new customers; however, the tender rate deviated from the tariff rate by 25 percent to 250 percent with no correlation to distance or weight category. The Operations Research and Economic Analysis Office (OR&EA) determined this variance to be extreme, thus the estimates would be unreliable predictors of the expected tender rates.

Upon further statistical review and analysis, the OR&EA Office developed a regression model based on cost of cwt per mile for both low weight and high weight shipments. Tender rates are negotiated based on weight of shipments ranging from 1,000 pounds up to 40,000 pounds. Carriers bid tenders for each weight category, however, to minimize the number of estimations in the model, two weight

categories were used: a low and high rate. The Office of Transportation and Traffic Management helped categorize these rates based on carriers minimum weight requirements per shipment.

The model was developed using the cwt per mile for Landover and Cheatham's existing customers. Appendix D displays each of the 43 customers in the Mid-Atlantic Region that must be serviced, distance from each of the alternative DSO warehouses and the cost per mile for each weight category. A non-linear regression model was then run for each DSO and each weight category. The statistical output for each regression model can be viewed in Appendices E1 through E4.

IV. ANALYSIS.

By conducting the correlation analysis it was determined that the variables, in this case distance and cost, were related in such a manner as to allow for estimating the tender rates for new customers at Cheatham and Landover.

Table 1 below shows the summary statistics from the regression analysis run on each DSO for each weight category. An R-squared statistic indicates the mathematical ability of the regression to predict cost (tender rate) based on distance.

TABLE 1			
SUMMARY STATISTICS ON REGRESSION ANALYSIS			
DSO	RATE	REGRESSION MODEL	R-SQUARED
Cheatham	Low	$Y = \exp(-0.22) * X^{-0.69}$	76%
Cheatham	High	$Y = \exp(-1.39) * X^{-0.69}$	67%
Landover	Low	$Y = \exp(0.22) * X^{-0.76}$	72%
Landover	High	$Y = \exp(-0.94) * X^{-0.76}$	77%
where Y = expected tender rate; X = distance in miles			

An R-squared statistic of 76 percent implies that approximately 76 percent of the variability in cost is explained by the distance from Cheatham to its customers. This indicates that the tender rate charged is closely

associated with the distance traveled. Using the non-linear regression model:

$$Y = \exp(-0.22) * X^{-0.69}$$

low tender rates were generated for each new customer of Cheatham.

Similarly, the estimates for each regression in Table 1 were used to generate low and high tender rates for each of the DSO's new customers.

In Appendices F1 and F2 the estimated tender rates for each new customer of Cheatham and each new customer of Landover derived by the regression models are shown. These estimated rates were then used to calculate the transportation charges by weight for all customers. Transportation charges were calculated by multiplying the tender rate per cwt by the hundred pound tonnage shipped for each customer. The total of all customers' transportation costs for Cheatham as the consolidated DSO were compared to total transportation costs of Landover as the consolidated DSO. These consolidated costs were then compared to the transportation costs of the status quo operations. In Table 2, below, the expected annual transportation costs to service all 43 Mid-Atlantic customers out of DSO Cheatham are approximately \$411,000 more than the status quo transportation costs of shipping out of DSO Landover and DSO Cheatham, while the transportation costs at a consolidated Landover facility are expected to be \$1,074,000 more annually.

TABLE 2			
ANNUAL TRANSPORTATION COSTS			
	Consolidated DSO		
	Status Quo	Cheatham	Landover
Landover Customers	\$448,000	\$859,000	\$448,000
Cheatham Customers	\$1,716,000	\$1,716,000	\$2,790,000
Total Costs	\$2,164,000	\$2,575,000	\$3,238,000
Differences		+\$411,000	+\$1,074,000

TABLE 4			
SUMMARY OF MAJOR COST ELEMENTS			
	Consolidated DSO		
	Status Quo	Cheatham	Landover
Transportation	\$2,165,000	\$2,575,000	\$3,238,000
Handling	\$368,000	\$347,000	\$500,000
Storage	\$590,000	\$507,000	\$609,000
TOTALS	\$3,123,000	\$3,429,000	\$4,347,000
DIFFERENCE		+\$306,000	+\$1,224,000

Considering the major cost elements in Table 4, the costs of consolidating operations at DSO Cheatham are expected to be approximately \$918,000 less annually than consolidating at DSO Landover. However, to consolidate the two DSOs at Cheatham would cost approximately \$306,000 more than the current status quo operations at both Landover and Cheatham.

Because transportation is the major cost factor in this analysis, a sensitivity analysis was performed on the transportation costs to determine at what level Cheatham must decrease their tender rates to be competitive with the current status quo operating costs. From the sensitivity analysis, the transportation costs for Cheatham would have to be 15 percent less than estimated in order for Cheatham to be competitive with current status quo operating costs.

VI. CONCLUSIONS.

It appears from the economic analysis that the current status quo operations at DSO Landover and DSO Cheatham are the least costly. Transportation costs to service Landover customers out of Cheatham would have to be reduced by approximately 15 percent before consolidation of the two DSOs would begin to be cost effective.

DSO STORAGE AND HANDLING COSTS

CHEATHAM:

	<u>1990</u>	<u>1991</u>	<u>1992</u>
Chill and Freeze Handling Costs (CWT)*	0.7523	0.7503	0.6633

LANDOVER:

FREEZER:

Handling Costs (CWT)	0.98	1.01	1.01
Storage Costs (CWT)	0.78	0.80	0.80

COOLER:

Handling Costs (CWT)	0.78	0.80	0.80
Storage Costs (CWT)	0.64	0.66	0.68

- * Cheatham DSO is Gov't owned/Contractor operated.
No Contractor storage costs. Navy owned-Navy/DPSC ISSA.

Cheatham Storage Costs:

Cheatham storage costs = FY'92 Navy/DPSC Interservice Support Agreement costs of \$507,420 which are DPSC's costs for the use of the entire warehouse.

DSO ANNUAL TONNAGE

FIRST TIME (POUNDS)

	<u>1990</u>	<u>1991</u>	<u>1992</u>
CHEATHAM:	62,624,651	49,564,669	45,879,047
LANDOVER: TOTAL	8,551,806	6,202,374	6,711,257
Frozen (84%)	7,183,517	5,209,994	5,637,456
Chill (16%)	1,368,289	992,380	1,073,801

RECURRING (POUNDS)

	<u>1990</u>	<u>1991</u>	<u>1992</u>
CHEATHAM:*	93,936,976	74,347,003	68,818,570
LANDOVER: TOTAL	13,591,081	11,938,953	10,604,560
Frozen (84%)	11,416,508	10,028,721	8,907,830
Chill: (16%)	2,174,573	1,910,232	1,696,730

* Cheatham Recurring Pounds = 1.5 x 1st Time Pounds - 45 day Safety Level

TRANSPORTATION DATA FOR DSOS

ORIGIN DESTINATION VA	LOW RATE	MIN. MT.	CURRENT CHEATMAN			MIN. MT.	CURRENT CHEATMAN			ORIGIN POINT CHEATMAN VA			
			RATE	PERCENT	HIGH RATE		RATE	PERCENT	HIGH RATE	LOW RATE	LOW FOR	HIGH RATE	HIGH FOR
NAVAL ACADEMY MD	\$9.00	5	\$1.76	19.00%	\$4.92	20	\$1.59	20.22%	\$4.04	\$10.34	\$3.62	\$5.57	\$1.66
MIDSHIPMEN FOOD SERVICE MD	\$6.57	10	\$1.20	26.84%	\$3.51	40	\$1.66	18.60%	\$9.23	\$11.48	\$4.04	\$6.75	\$2.75
FORT BELVOIR MD	\$7.90	10	\$1.65	20.76%	\$3.19	40	\$1.47	19.73%	\$3.27	\$10.36	\$1.24	\$4.20	\$1.20
NAVAL MED CTR MD	\$11.60	5	\$1.50	29.77%	\$4.50	20	\$1.00	22.22%	\$10.34	\$4.11	\$5.57	\$1.24	\$1.24
BOLLING AFB DC	\$5.80	5	\$2.00	22.73%	\$5.41	30	\$0.68	19.94%	\$10.45	\$2.37	\$4.37	\$0.67	\$0.67
HOWARD UNIV HOSP DC	\$5.80	5	\$3.76	42.73%	\$7.90	10	\$1.69	33.92%	\$10.45	\$4.45	\$9.37	\$2.24	\$2.24
NAVAL STATION DC	\$9.00	5	\$3.36	35.00%	\$3.75	30	\$1.15	20.62%	\$10.34	\$3.62	\$4.33	\$1.53	\$1.53
NAVAL STATION DC	\$6.80	5	\$3.76	42.73%	\$7.90	10	\$1.69	33.92%	\$10.45	\$4.45	\$9.37	\$2.24	\$2.24
SOLDIERS & SAILORS HOME DC	\$8.80	5	\$3.50	39.77%	\$7.90	10	\$1.90	24.05%	\$3.68	\$1.54	\$3.37	\$0.61	\$0.61
FT. MEADE MD	\$7.90	10	\$1.59	20.13%	\$3.19	40	\$0.75	23.51%	\$9.23	\$1.86	\$4.00	\$0.94	\$0.94
FT. RYER DC	\$7.90	10	\$1.35	17.09%	\$3.19	40	\$0.52	16.30%	\$3.37	\$0.58	\$1.34	\$0.22	\$0.22
PATUZENT NAV. AIR STATION MD	\$10.84	5	\$4.16	38.36%	\$4.45	30	\$1.15	25.84%	\$14.81	\$5.68	\$6.39	\$1.65	\$1.65
MARINE CORPS BASE VA	\$9.72	10	\$2.30	23.66%	\$4.32	40	\$2.00	46.30%	\$9.72	\$2.50	\$4.32	\$2.00	\$2.00
FT. RICHIE MD	\$9.92	5	\$4.97	50.10%	\$5.07	20	\$1.25	24.26%	\$10.45	\$5.24	\$5.71	\$1.59	\$1.59
VA HOSPITAL MD	\$5.60	5	\$2.76	42.73%	\$3.41	30	\$0.70	20.53%	\$10.45	\$4.46	\$4.37	\$0.90	\$0.90
VA HOSPITAL WV	\$6.47	10	\$2.97	25.06%	\$5.02	20	\$1.67	33.27%	\$9.61	\$3.37	\$5.98	\$1.99	\$1.99
VA HOSPITAL MD	\$6.57	10	\$2.49	29.05%	\$3.51	40	\$0.68	19.37%	\$9.23	\$2.69	\$4.00	\$0.77	\$0.77
VA HOSPITAL MD	\$9.44	5	\$5.99	63.45%	\$5.02	20	\$1.40	27.89%	\$3.84	\$2.44	\$1.96	\$0.55	\$0.55
VINT HILL FARMS VA	\$9.80	5	\$4.45	50.57%	\$3.41	30	\$1.05	30.79%	\$3.88	\$1.96	\$1.47	\$0.45	\$0.45
N. REED A.M.C. DC	\$8.80	5	\$2.89	32.84%	\$4.50	20	\$0.87	19.52%	\$10.45	\$3.43	\$5.71	\$1.10	\$1.10
U.S. NAVAL SHIPS MD	\$6.57	10	\$2.49	29.05%	\$3.51	40	\$0.68	19.37%	\$9.23	\$2.69	\$4.00	\$0.77	\$0.77
VA LOCH RAVEN MD	\$8.57	10	\$2.77	32.32%	\$3.51	40	\$0.77	21.94%	\$9.23	\$2.98	\$4.00	\$0.68	\$0.68
VA HOSPITAL WV	\$12.44	10	\$5.74	46.14%	\$7.88	20	\$2.87	36.42%	\$11.95	\$5.51	\$7.56	\$2.75	\$2.75
VA HOSPITAL WV	\$11.69	10	\$5.00	42.77%	\$7.39	20	\$2.62	35.45%	\$12.96	\$5.34	\$8.22	\$2.91	\$2.91
COMBO 1	\$6.57	10	\$4.24	49.47%	\$3.51	40	\$0.74	21.08%	\$9.23	\$4.57	\$4.00	\$0.84	\$0.84
COMBO 2	\$6.47	10	\$4.24	50.06%	\$3.60	40	\$0.74	20.56%	\$2.68	\$1.34	\$1.01	\$0.21	\$0.21
COMBO 3	\$8.47	10	\$8.49	100.24%	\$2.60	40	\$0.74	20.56%	\$2.68	\$2.69	\$1.01	\$0.21	\$0.21
COMBO 4	\$8.57	10	\$2.99	34.89%	\$3.51	40	\$0.74	21.08%	\$9.23	\$3.22	\$4.00	\$0.84	\$0.84
COMBO 5	\$8.57	10	\$1.55	18.09%	\$2.51	40	\$0.60	22.79%	\$9.23	\$1.67	\$4.00	\$0.91	\$0.91
COMBO 6	\$8.47	10	\$4.24	50.06%	\$3.60	40	\$0.74	20.56%	\$2.90	\$1.45	\$1.10	\$0.23	\$0.23
COMBO 7	\$9.72	10	\$2.25	23.15%	\$4.32	40	\$0.70	16.20%	\$9.72	\$2.25	\$4.32	\$0.70	\$0.70
COMBO 8	\$8.47	10	\$2.15	27.74%	\$2.89	30	\$1.05	26.99%	\$9.61	\$2.67	\$4.52	\$1.22	\$1.22
COMBO 9	\$11.69	10	\$5.74	49.10%	\$5.46	40	\$1.43	26.19%	\$12.96	\$6.36	\$6.10	\$1.60	\$1.60
COMBO 10	\$12.44	10	\$5.74	46.14%	\$5.90	30	\$1.91	32.37%	\$11.95	\$5.51	\$5.75	\$1.66	\$1.66
COMBO 11	\$9.44	5	\$6.05	63.88%	\$3.89	20	\$1.20	20.85%	\$3.34	\$2.13	\$1.17	\$0.36	\$0.36
COMBO 12	\$6.47	10	\$2.50	29.52%	\$3.60	40	\$0.65	18.06%	\$2.90	\$0.86	\$1.10	\$0.20	\$0.20
COMBO 13	\$9.60	5	\$6.38	66.46%	\$3.75	30	\$0.85	22.79%	\$10.34	\$6.87	\$4.33	\$0.99	\$0.99
COMBO 14	\$7.90	10	\$1.57	19.87%	\$3.19	40	\$0.51	15.99%	\$2.37	\$0.67	\$1.34	\$0.21	\$0.21
COMBO 15	\$7.90	10	\$1.70	21.52%	\$3.19	40	\$0.52	16.30%	\$9.23	\$1.99	\$4.00	\$0.65	\$0.65
COMBO 16	\$7.90	10	\$1.40	17.72%	\$3.19	40	\$0.51	15.99%	\$9.37	\$1.66	\$4.07	\$0.65	\$0.65
COMBO 17	\$7.90	10	\$1.70	21.52%	\$3.19	40	\$0.51	15.99%	\$9.23	\$1.99	\$4.00	\$0.64	\$0.64
COMBO 18	\$8.80	5	\$2.50	28.41%	\$3.41	30	\$0.68	19.94%	\$10.45	\$2.97	\$4.37	\$0.87	\$0.87
COMBO 19	\$8.80	5	\$2.20	25.00%	\$3.19	30	\$0.70	21.94%	\$10.45	\$2.61	\$4.07	\$0.89	\$0.89
COMBO 20	\$7.90	10	\$1.35	17.09%	\$3.19	40	\$0.51	15.99%	\$9.37	\$1.60	\$4.07	\$0.65	\$0.65
COMBO 21	\$8.80	5	\$1.80	20.45%	\$3.41	30	\$0.55	16.13%	\$10.45	\$2.14	\$4.37	\$0.70	\$0.70
COMBO 22	\$6.80	5	\$1.50	14.77%	\$3.41	30	\$0.55	16.13%	\$3.68	\$0.57	\$1.47	\$0.24	\$0.24
COMBO 23	\$5.80	5	\$1.50	14.77%	\$3.41	30	\$0.55	16.13%	\$3.68	\$0.57	\$1.47	\$0.24	\$0.24

COST STUDY OF NORTHERN REGION

ORIGIN CHEATMAN VA	LOW RATE	MIN. MT.	CURRENT CHEATMAN			MIN. MT.	CURRENT CHEATMAN			ORIGIN POINT LANDOVER MD			
			RATE	PERCENT	HIGH RATE		RATE	PERCENT	HIGH RATE	LOW RATE	LOW FOR	HIGH RATE	HIGH FOR
FT. EUSTIS VA	\$2.05	10	\$1.13	49.18%	\$1.18	40	\$0.40	33.90%	\$10.42	\$5.12	\$4.90	\$1.66	\$1.66
NAVAL NEAPLES STATION VA	\$2.50	5	\$2.00	80.71%	\$1.76	20	\$0.75	62.61%	\$11.66	\$9.99	\$6.29	\$2.81	\$2.81
FT. MONROE VA	\$2.50	5	\$2.50	100.00%	\$1.76	20	\$0.90	51.14%	\$11.66	\$11.66	\$6.59	\$3.27	\$3.27
FORT LEE VA	\$2.90	10	\$1.90	65.52%	\$1.10	40	\$0.55	50.00%	\$9.47	\$6.20	\$4.14	\$2.67	\$2.67
LANGLEY AFB VA	\$3.05	10	\$1.20	39.34%	\$1.18	40	\$0.42	35.59%	\$10.42	\$4.10	\$4.90	\$1.74	\$1.74
FT. A.P. HILL VA	\$2.90	10	\$2.20	75.86%	\$1.10	40	\$0.62	77.27%	\$6.47	\$6.43	\$3.60	\$2.60	\$2.60
FT. FIDELITY VA	\$2.34	5	\$4.00	119.76%	\$1.17	20	\$0.78	66.67%	\$10.60	\$12.69	\$4.49	\$2.99	\$2.99
NAVAL AIR STATION VA	\$2.05	10	\$1.82	88.66%	\$1.18	40	\$0.47	59.62%	\$10.42	\$6.32	\$4.90	\$1.95	\$1.95
VA HOSPITAL VA	\$2.50	5	\$4.00	114.29%	\$1.30	30	\$0.70	53.65%	\$11.66	\$13.33	\$5.02	\$2.70	\$2.70
FED. CORAL INSTITUTE VA	\$2.34	5	\$4.00	119.76%	\$1.17	20	\$0.75	64.10%	\$10.60	\$12.69	\$4.49	\$2.66	\$2.66
FT. BRAGG NC	\$6.61	10	\$4.17	62.99%	\$2.81	40	\$1.14	29.92%	\$7.71	\$4.66	\$4.45	\$1.33	\$1.33
FED CORAL INST NC	\$6.61	10	\$4.01	60.67%	\$2.81	40	\$1.05	27.03%	\$7.71	\$4.66	\$4.45	\$1.20	\$1.20
LEJEUNE AFB NC	\$6.88	10	\$4.21	61.19%	\$2.97	40	\$1.15	28.97%	\$7.71	\$4.72	\$4.45	\$1.29	\$1.29
SEVIER JOHNSON AFB NC	\$6.61	10	\$3.95	59.76%	\$2.81	40	\$1.09	26.61%	\$7.71	\$4.61	\$4.45	\$1.27	\$1.27
VA HOSPITAL NC	\$7.30	5	\$5.00	109.59%	\$2.61	10	\$4.20	67.54%	\$8.52	\$9.34	\$7.71	\$4.90	\$4.90
VA HOSPITAL NC	\$6.82	5	\$10.75	121.74%	\$7.99	10	\$5.40	67.56%	\$10.15	\$12.36	\$9.05	\$6.12	\$6.12
VA HOSPITAL NC	\$3.69	5	\$6.00	115.56%	\$2.65	10	\$4.20	67.42%	\$7.61	\$9.10	\$6.66	\$4.76	\$4.76
NSC NORFOLK VA	\$2.05	10	\$1.20	39.34%	\$1.18	40	\$0.42	35.59%	\$10.42	\$4.10	\$4.90	\$1.74	\$1.74
NSC CHEATMAN VA	\$2.29	5	\$2.50	75.99%	\$2.00	10	\$1.25	43.40%	\$10.34	\$7.66	\$5.23	\$4.01	\$4.01
COMBO 1	\$6.66	10	\$4.42	64.24%	\$3.97	40	\$1.21	30.48%	\$7.71	\$4.95	\$4.45	\$1.36	\$1.36
COMBO 2	\$7.99	10	\$6.01	75.23%	\$4.61	40	\$1.52	33.19%	\$9.05	\$6.81	\$5.33	\$1.78	\$1.78
COMBO 3	\$7.99	10	\$6.01	75.23%	\$4.61	40	\$1.52	33.19%	\$9.05	\$6.81	\$5.33	\$1.78	\$1.78
COMBO 4	\$2.88	10	\$2.10	72.92%	\$1.08	40	\$0.65	60.19%	\$9.23	\$6.73	\$4.00	\$2.41	\$2.41
COMBO 5	\$4.41	10	\$4.76	71.10%	\$3.81	40	\$1.37	35.98%	\$7.71	\$5.48	\$4.45	\$1.60	\$1.60
COMBO 6	\$2.90	10	\$2.50	75.86%	\$1.10	40	\$0.75	66.18%	\$9.47	\$7.18	\$4.14	\$2.82	\$2.82
COMBO 7	\$2.05	10	\$1.60	52.46%	\$1.18	40	\$0.49	41.53%	\$10.42	\$5.17	\$4.90	\$1.63	\$1.63
COMBO 8	\$3.05	10	\$1.73	56.77%	\$1.18	40	\$0.58	49.15%	\$10.42	\$5.91	\$4.90	\$1.41	\$1.41
COMBO 9	\$2.05	10	\$1.95	67.92%	\$1.18	40	\$0.58	49.15%	\$10.42	\$6.76	\$4.90	\$1.41	\$1.41
COMBO 10	\$2.90	10	\$2.75	94.63%	\$1.10	40	\$0.65	77.27%	\$6.47	\$6.13	\$3.60	\$2.78	\$2.78

ACTUAL TENDER RATES BY MILES FOR EACH DSO

CHEATHAM CUSTOMERS	MILES LANDOVER	MILES CHEATHAM	LOW TENDER RATE	LOW COST/MILE	HIGH TENDER RATE	HIGH COST/MILE
FT. EUSTIS, NEWPORT NEWS, VA.	177	19	\$1.50	\$0.0789	\$0.40	\$0.0211
NAVAL WEAPONS STATION, YORKTOWN, VA.	166	17	\$3.00	\$0.1785	\$0.75	\$0.0441
FT. MONROE, HAMPTON, VA.	167	40	\$3.50	\$0.0875	\$0.90	\$0.0225
FORT LEE, PETERSBURG, VA.	136	72	\$1.90	\$0.0264	\$0.55	\$0.0076
LANGLEY AFB, HAMPTON, VA.	187	35	\$1.20	\$0.0343	\$0.42	\$0.0120
FT. A.P. HILL, FREDERICKSBURG, VA.	75	100	\$2.20	\$0.0220	\$0.85	\$0.0085
FT. PICKETT, BLACKSTONE, VA.	187	119	\$4.00	\$0.0336	\$0.78	\$0.0086
NAVAL AIR STATION, OCEANA, VA.	189	67	\$1.65	\$0.0276	\$0.47	\$0.0070
VA HOSPITAL, HAMPTON, VA.	187	30	\$4.00	\$0.1333	\$0.70	\$0.0233
FED CORR INSTITUTE, PETERSBURG, VA.	136	64	\$4.00	\$0.0625	\$0.75	\$0.0117
FT. BRAGG, FAYETTEVILLE, NC.	317	245	\$4.17	\$0.0170	\$1.14	\$0.0047
FED CORR INSTITUTE, BUTNER, NC.	249	235	\$4.01	\$0.0171	\$1.03	\$0.0044
LEJEUNE AFB, JACKSONVILLE, NC.	326	246	\$4.21	\$0.0171	\$1.15	\$0.0047
SEYMOUR JOHNSON AFB, GOLDSBORO, NC.	275	195	\$3.95	\$0.0203	\$1.09	\$0.0056
VA HOSPITAL, FAYETTEVILLE, NC.	317	244	\$6.00	\$0.0326	\$4.20	\$0.0172
VA HOSPITAL, SAUSBURY, NC.	336	265	\$10.75	\$0.0377	\$5.40	\$0.0189
VA HOSPITAL, DURHAM, NC.	261	205	\$6.00	\$0.0390	\$4.20	\$0.0205
NSC NORFOLK, NORFOLK, VA.	183	56	\$1.20	\$0.0214	\$0.42	\$0.0075
NSC CHEATHAM, WILLIAMSBURG, VA.	157	2	\$2.50	\$1.2500	\$1.25	\$0.6250
COMBO 1	326	246	\$4.42	\$0.0180	\$1.21	\$0.0049
COMBO 2	336	265	\$6.01	\$0.0211	\$1.53	\$0.0054
COMBO 3	336	265	\$6.01	\$0.0211	\$1.53	\$0.0054
COMBO 4	136	72	\$2.10	\$0.0292	\$0.85	\$0.0090
COMBO 5	317	245	\$4.70	\$0.0192	\$1.37	\$0.0056
COMBO 6	167	119	\$2.20	\$0.0185	\$0.75	\$0.0063
COMBO 7	177	19	\$1.60	\$0.0842	\$0.49	\$0.0256
COMBO 8	187	40	\$1.73	\$0.0433	\$0.56	\$0.0145
COMBO 9	187	40	\$1.66	\$0.0495	\$0.56	\$0.0145
COMBO 10	136	100	\$2.75	\$0.0275	\$0.85	\$0.0085

LANDOVER CUSTOMERS	MILES CHEATHAM	MILES LANDOVER	LOW TENDER RATE	LOW COST/MILE	HIGH TENDER RATE	HIGH COST/MILE
NAVAL ACADEMY, ANNAPOLIS, MD.	173	27	\$3.36	\$0.1244	\$1.59	\$0.0589
MIDSHIP FOOD SERVICE, ANNAPOLIS, MD.	173	27	\$2.30	\$0.0652	\$0.66	\$0.0244
FORT BELVOIR, ALEXANDRIA, VA.	135	28	\$0.85	\$0.0304	\$0.47	\$0.0166
NAVAL MEDICAL CENTER, BETHESDA, MD.	156	11	\$3.50	\$0.3182	\$1.00	\$0.0909
BOLLING AFB, WASH D.C.	146	11	\$2.00	\$0.1616	\$0.66	\$0.0616
HOWARD UNIVERSITY HOSPITAL, WASH D.C.	146	8	\$3.76	\$0.4700	\$1.89	\$0.2363
NAVAL STATION, ANNAPOLIS, MD.	173	27	\$3.36	\$0.1244	\$1.15	\$0.0426
NAVAL STATION, WASH D.C.	146	10	\$3.76	\$0.3760	\$1.89	\$0.1890
SOLDIERS AND SAILORS HOME, WASH D.C.	146	10	\$3.50	\$0.3500	\$1.90	\$0.1900
FT. MEADE, ODENTON, MD.	162	20	\$1.59	\$0.0795	\$0.75	\$0.0375
FT. MEYER, ARLINGTON, VA.	154	13	\$1.35	\$0.1036	\$0.52	\$0.0400
PAX NAVAL STATION, CEDAR POINT, MD.	144	89	\$4.16	\$0.0467	\$1.15	\$0.0129
HQ MARINE CORPS, QUANTICO, VA.	80	45	\$2.30	\$0.0511	\$2.00	\$0.0444
FT. RICHIE, FT. RICHIE, MD.	211	84	\$4.67	\$0.0582	\$1.23	\$0.0146
VA HOSPITAL, WASH D.C.	146	10	\$3.76	\$0.3760	\$0.70	\$0.0700
VA HOSPITAL, MARTINSBURG, WV.	200	70	\$2.97	\$0.0424	\$1.67	\$0.0239
VA HOSPITAL, FT. HOWARD, MD.	186	45	\$2.49	\$0.0553	\$0.66	\$0.0151
VA HOSPITAL, PERRY POINT, MD.	221	43	\$5.99	\$0.1393	\$1.40	\$0.0326
VINT HILL FARMS, WARRENTON, VA.	136	66	\$4.45	\$0.0674	\$1.05	\$0.0159
WALTER REED MEDICAL, WASH D.C.	146	14	\$2.89	\$0.2064	\$0.87	\$0.0621
U.S. NAVAL SHIPS, BALTIMORE, MD.	186	40	\$2.49	\$0.0623	\$0.66	\$0.0170
VA LOCH HAVEN, BALTIMORE, MD.	186	40	\$2.77	\$0.0693	\$0.77	\$0.0193
VA HOSPITAL, BECKLEY, WV.	310	350	\$5.74	\$0.0184	\$2.87	\$0.0082
VA HOSPITAL, CLARKSBURG, WV.	312	225	\$5.00	\$0.0222	\$2.62	\$0.0116
COMBO 1	186	43	\$4.24	\$0.0986	\$0.74	\$0.0172
COMBO 2	221	43	\$4.24	\$0.0986	\$0.74	\$0.0172
COMBO 3	173	27	\$6.49	\$0.3144	\$0.74	\$0.0274
COMBO 4	173	27	\$2.99	\$0.1107	\$0.74	\$0.0274
COMBO 5	221	27	\$1.55	\$0.0574	\$0.80	\$0.0296
COMBO 6	144	66	\$4.24	\$0.0476	\$0.74	\$0.0083
COMBO 7	136	66	\$2.25	\$0.0341	\$0.70	\$0.0106
COMBO 8	200	70	\$2.35	\$0.0336	\$1.05	\$0.0150
COMBO 9	312	350	\$5.74	\$0.0184	\$1.43	\$0.0041
COMBO 10	312	350	\$5.74	\$0.0184	\$1.91	\$0.0055
COMBO 11	173	27	\$6.03	\$0.2233	\$1.20	\$0.0444
COMBO 12	80	45	\$2.50	\$0.0556	\$0.65	\$0.0144
COMBO 13	162	20	\$6.36	\$0.3190	\$0.85	\$0.0425
COMBO 14	154	26	\$1.57	\$0.0561	\$0.51	\$0.0182
COMBO 15	156	14	\$1.70	\$0.1214	\$0.52	\$0.0371
COMBO 16	146	11	\$1.40	\$0.1273	\$0.51	\$0.0464
COMBO 17	153	11	\$1.70	\$0.1545	\$0.51	\$0.0464
COMBO 18	146	11	\$2.50	\$0.2273	\$0.66	\$0.0616
COMBO 19	146	11	\$2.20	\$0.2000	\$0.70	\$0.0636
COMBO 20	150	11	\$1.35	\$0.1227	\$0.51	\$0.0464
COMBO 21	146	11	\$1.60	\$0.1636	\$0.55	\$0.0500
COMBO 22	135	26	\$1.30	\$0.0464	\$0.55	\$0.0196
COMBO 23	162	26	\$1.30	\$0.0464	\$0.55	\$0.0196

LANDOVER (LOW RATE)

Regression Analysis - Multiplicative model: $Y = aX^b$

Dependent variable: CHETRATE.var2/CHETRA Independent variable: CHETRATE.v

Parameter	Estimate	Standard Error	T Value	Prob. Level
Intercept*	0.21276	0.256015	0.831042	.41044
Slope	-0.758347	0.0714362	-10.5157	.00000

* NOTE: The Intercept is equal to Log a.

Analysis of Variance

Source	Sum of Squares	Df	Mean Square	F-Ratio	Prob. Level
Model	25.83697	1	25.83697	112.6935	.00000
Error	10.087776	44	.229268		
Total (Corr.)	35.924748	45			

Correlation Coefficient = -0.848055
 Stnd. Error of Est. = 0.478819

R-squared = 71.92 percent

LANDOVER (HIGH RATE)

Regression Analysis - Multiplicative model: $Y = aX^b$

Dependent variable: CHETRATE.var3/CHETRA Independent variable: CHETRATE

Parameter	Estimate	Standard Error	T Value	Prob. Level
Intercept*	-0.935632	0.227533	-4.11208	.00017
Slope	-0.762111	0.0634886	-12.0039	.00000

* NOTE: The Intercept is equal to Log a.

Analysis of Variance

Source	Sum of Squares	Df	Mean Square	F-Ratio	Prob. Level
Model	26.09409	1	26.09409	144.0935	.0000
Error	7.968020	44	.181091		

Total (Corr.) 34.062105 45

Correlation Coefficient = -0.875256

R-squared = 76.61 percent

Std. Error of Est. = 0.425548

CHEATHAM (LOW RATE)

Regression Analysis - Multiplicative model: $Y = aX^b$

Dependent variable: CHETRATE.var2

Independent variable: CHETRATE.

Parameter	Estimate	Standard Error	T Value	Prob. Level
Intercept*	-0.218666	0.341154	-0.640958	.52695
Slope	-0.689294	0.0751313	-9.17453	.00000

* NOTE: The Intercept is equal to Log a.

Analysis of Variance

Source	Sum of Squares	Df	Mean Square	F-Ratio	Prob. Level
Model	17.732386	1	17.732386	84.17204	.00000
Error	5.688046	27	.210668		

Total (Corr.) 23.420433 28

Correlation Coefficient = -0.870134

R-squared = 75.71 percent

Std. Error of Est. = 0.458986

CHEATHAM (HIGH RATE)

Regression Analysis - Multiplicative model: $Y = aX^b$

Dependent variable: CHETRATE.var3

Independent variable: CHETRATE.

Parameter	Estimate	Standard Error	T Value	Prob. Level
Intercept*	-1.39319	0.431002	-3.23246	.00323
Slope	-0.695587	0.0949181	-7.32829	.00000

* NOTE: The Intercept is equal to Log a.

Analysis of Variance

Source	Sum of Squares	Df	Mean Square	F-Ratio	Prob. Level
Model	18.057631	1	18.057631	53.70378	.0000
Error	9.078617	27	.336245		
Total (Corr.)	27.136248	28			

Correlation Coefficient = -0.815747
 Stnd. Error of Est. = 0.579866

R-squared = 66.54 percent

LANDOVER ESTIMATES BASED ON REGRESSION ANALYSIS

CUSTOMER	MILES	\$/MILE LOW	\$/MILE HIGH	ESTIMATED LOW TENDER	ESTIMATED HIGH TENDER
MIDSHIP FOOD SERVICE, ANNAPOLIS, MD.	173	\$0.0230	\$0.0088	\$3.98	\$1.19
FORT BELVOIR, ALEXANDRIA, VA.	135	\$0.0273	\$0.0081	\$3.69	\$1.11
NAVAL MEDICAL CENTER, BETHESDA, MD.	156	\$0.0247	\$0.0074	\$3.86	\$1.15
BOLLING AFB, WASH. D.C.	148	\$0.0258	\$0.0078	\$3.80	\$1.14
HOWARD UNIVERSITY HOSPITAL, WASH. D.C.	148	\$0.0256	\$0.0078	\$3.80	\$1.14
NAVAL STATION, ANNAPOLIS, MD.	173	\$0.0230	\$0.0088	\$3.98	\$1.12
NAVAL STATION, WASH. D.C.	148	\$0.0258	\$0.0078	\$3.80	\$1.14
SOLDIERS AND SAILORS HOME, WASH. D.C.	148	\$0.0256	\$0.0076	\$3.80	\$1.10
FT. MEADE, ODENTON, MD.	162	\$0.0241	\$0.0072	\$3.90	\$1.17
FT. MEYER, ARLINGTON, VA.	154	\$0.0249	\$0.0074	\$3.84	\$1.16
PAX NAVAL STATION, CEDAR POINT, MD.	144	\$0.0281	\$0.0073	\$3.76	\$1.13
HQ MARINE CORPS, QUANTICO, VA.	80	\$0.0391	\$0.0117	\$3.14	\$0.94
FT. RICHIE, FT. RICHIE, MD.	211	\$0.0200	\$0.0060	\$4.24	\$1.27
VA HOSPITAL, WASH. D.C.	148	\$0.0268	\$0.0076	\$3.80	\$1.14
VA HOSPITAL, MARTINSBURG, WV.	200	\$0.0208	\$0.0062	\$4.17	\$1.25
VA HOSPITAL, FT. HOWARD, MD.	198	\$0.0200	\$0.0082	\$4.16	\$1.24
VA HOSPITAL, PERRY POINT, MD.	221	\$0.0194	\$0.0058	\$4.30	\$1.26
VINT HILL FARMS, WARRENTON, VA.	136	\$0.0271	\$0.0081	\$3.70	\$1.11
WALTER REED MEDICAL, WASH. D.C.	148	\$0.0268	\$0.0078	\$3.60	\$1.14
U.S. NAVAL SHIPS, BALTIMORE, MD.	186	\$0.0219	\$0.0085	\$4.08	\$1.22
VA LOCH RAVEN, MD.	186	\$0.0219	\$0.0085	\$4.08	\$1.22
VA HOSPITAL, BECKLEY, WV.	310	\$0.0154	\$0.0045	\$4.78	\$1.42
VA HOSPITAL, CLARKSBURG, WV.	312	\$0.0192	\$0.0057	\$4.32	\$1.29
COMBO 1	166	\$0.0219	\$0.0086	\$4.08	\$1.22
COMBO 2	221	\$0.0194	\$0.0058	\$4.30	\$1.28
COMBO 3	173	\$0.0284	\$0.0088	\$3.98	\$1.19
COMBO 4	173	\$0.0230	\$0.0088	\$3.98	\$1.19
COMBO 5	221	\$0.0194	\$0.0058	\$4.30	\$1.28
COMBO 6	144	\$0.0281	\$0.0078	\$3.76	\$1.13
COMBO 7	136	\$0.0271	\$0.0081	\$3.70	\$1.11
COMBO 8	200	\$0.0208	\$0.0062	\$4.17	\$1.25
COMBO 9	312	\$0.0163	\$0.0045	\$4.78	\$1.43
COMBO 10	312	\$0.0153	\$0.0045	\$4.78	\$1.43
COMBO 11	173	\$0.0230	\$0.0065	\$3.98	\$1.19
COMBO 12	80	\$0.0391	\$0.0117	\$3.14	\$0.94
COMBO 13	162	\$0.0241	\$0.0072	\$3.90	\$1.17
COMBO 14	164	\$0.0249	\$0.0074	\$3.84	\$1.15
COMBO 15	158	\$0.0247	\$0.0074	\$3.88	\$1.15
COMBO 16	148	\$0.0258	\$0.0076	\$3.80	\$1.14
COMBO 17	153	\$0.0250	\$0.0075	\$3.84	\$1.16
COMBO 18	148	\$0.0256	\$0.0076	\$3.80	\$1.14
COMBO 19	148	\$0.0256	\$0.0076	\$3.80	\$1.14
COMBO 20	150	\$0.0254	\$0.0076	\$3.81	\$1.14
COMBO 21	148	\$0.0256	\$0.0078	\$3.80	\$1.14
COMBO 22	136	\$0.0273	\$0.0081	\$3.89	\$1.11
COMBO 23	162	\$0.0241	\$0.0072	\$3.90	\$1.17

CHEATHAM ESTIMATES BASED ON REGRESSION ANALYSIS

CUSTOMER	MILES	\$/MILE LOW	\$/MILE HIGH	ESTIMATED LOW TENDER	ESTIMATED HIGH TENDER
FT. EUSTIS, NEWPORT NEWS, VA.	117	\$0.0334	\$0.0104	\$3.91	\$1.22
NAVAL WEAPONS STATION, YORKTOWN, VA.	166	\$0.0256	\$0.0079	\$4.25	\$1.32
FT. MONROE, HAMPTON, VA.	187	\$0.0234	\$0.0072	\$4.38	\$1.36
FORT LEE, PETERSBURG, VA.	136	\$0.0298	\$0.0092	\$4.05	\$1.26
LANGLEY AFB, HAMPTON, VA.	187	\$0.0234	\$0.0072	\$4.38	\$1.36
FT. A.P. HILL, FREDERICKSBURG, VA.	75	\$0.0468	\$0.0146	\$3.51	\$1.10
FT. PICKETT, BLACKSTONE, VA.	167	\$0.0255	\$0.0079	\$4.26	\$1.33
NAVAL AIR STATION, OCEANA, VA.	199	\$0.0223	\$0.0069	\$4.45	\$1.38
VA HOSPITAL, HAMPTON, VA.	187	\$0.0234	\$0.0072	\$4.38	\$1.36
FED. CORR. INSTITUTE, PETERSBURG, VA.	136	\$0.0298	\$0.0092	\$4.05	\$1.26
FT. BRAGG, FAYETTEVILLE, NC.	317	\$0.0156	\$0.0048	\$4.97	\$1.54
FED. CORR. INSTITUTE, BUTNER, NC.	249	\$0.0188	\$0.0058	\$4.69	\$1.46
LEJEUNE AFB, JACKSONVILLE, NC.	328	\$0.0152	\$0.0047	\$5.02	\$1.56
SEYMOUR JOHNSON AFB, GOLDSBORO, NC	275	\$0.0174	\$0.0054	\$4.81	\$1.49
VA HOSPITAL, FAYETTEVILLE, NC.	317	\$0.0156	\$0.0048	\$4.97	\$1.54
VA HOSPITAL, SALISBURY, NC.	336	\$0.0150	\$0.0046	\$5.05	\$1.57
VA HOSPITAL, DURHAM, NC.	261	\$0.0181	\$0.0056	\$4.75	\$1.47
NSC NORFOLK, NORFOLK, VA.	193	\$0.0228	\$0.0071	\$4.41	\$1.37
NSC CHEATHAM, WILLIAMSBURG, VA.	157	\$0.0267	\$0.0083	\$4.20	\$1.31
COMBO 1	328	\$0.0152	\$0.0047	\$5.02	\$1.56
COMBO 2	336	\$0.0150	\$0.0046	\$5.05	\$1.57
COMBO 3	336	\$0.0150	\$0.0046	\$5.05	\$1.57
COMBO 4	136	\$0.0298	\$0.0092	\$4.05	\$1.26
COMBO 5	317	\$0.0156	\$0.0048	\$4.97	\$1.54
COMBO 6	167	\$0.0255	\$0.0079	\$4.26	\$1.33
COMBO 7	177	\$0.0244	\$0.0075	\$4.32	\$1.34
COMBO 8	187	\$0.0234	\$0.0072	\$4.38	\$1.36
COMBO 9	187	\$0.0234	\$0.0072	\$4.38	\$1.36
COMBO 10	136	\$0.0298	\$0.0092	\$4.05	\$1.26

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13. ABSTRACT (Maximum 200 words) This study evaluates the costs of the current operations to service the DSO Landover and DSO Cheatham chill and freeze customers vice consolidating the two facilities and servicing both sets of customers from the DSO Cheatham facility. The major cost elements analyzed were storage, handling and transportation costs. The results of the study conclude that the least costly alternative would be to remain with the status quo chill and freeze operations at both DSO Landover and DSO Cheatham. Due to the close proximity of the current two sets of customers to their respective DSOs and the long distance between the two DSOs (approx. 150 miles) the transportation costs to service the new customers make consolidation an expensive consideration.				
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